

FINAL REPORT

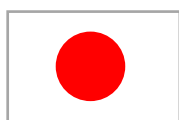
(INTERIM AS OF FEBRUARY 2018)



CHIN STATE

Emergency support to poor and vulnerable communities in ethnic areas

PROJECT DURATION: APRIL 2016 – MAY 2018



From the
People of Japan

UN HABITAT
UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME

PROJECT HIGHLIGHTS

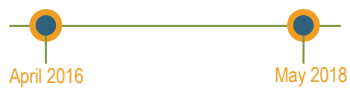
BENEFICIARIES

125,008 PEOPLE
61,358 Women
63,358 Men



BUDGET 
5,589,833

DURATION



COVERAGE

4 TOWNSHIPS
241 VILLAGES



PARTNERS

Village Development Committees (VDCs)
Department of Rural Development (DRD)

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ACRONYMS

AoC	Agreement of Cooperation
BoQ	Bill of quantities
CAP	Community Action Plan
CDD	Community Driven Development
CIA	Community Implementation Agreement
CBO	Community Based Organization
DRD	Department of Rural Development
EE	Environmental Enteropathy
EMMP	Environment Mitigation Measure Performance
FPL	Fly-proof latrine
FPM	Filed Programme Manager
GAD	General Administrative Department
GPS	Global Positioning System
HH	Household
HPV	Hygiene Promotion Volunteer
HP	Hygiene Promoter
HQ	Head Quarters
IDP	Internally Displace Person
IEC	Information Education and Communication
IP	Implementing Partner
KI	Key Informant
M&E	Monitoring and Evaluation
MEAL	Monitoring, Evaluation and Learning (Plan)
MEB	Myanmar Economic Bank
MICS	Multiple Indicator Cluster Survey
O&M	Operation and Maintenance
PHAST	Participatory Hygiene and Sanitation Transformation
PTA	Parent Teacher Association
RWCT	Rain Water Collection Tank
TC	Township Coordinator
ToT	Training of Trainers
UMOJA	Central Administrative System (UN Secretariat)
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
VDC	Village Development Committee
WASH	Water, sanitation and hygiene



Bringing in electricity support through renewable energy

Emergency support to poor and vulnerable communities in ethnic areas

FINAL REPORT (Interim as of February 2018)

1. Introduction

1.1 Chin State

The upland areas of Myanmar are largely populated by non-Bamar ethnic groups; each state and region is diverse in terms of its people, languages and cultures. The Chin are of Sino-Tibetan origin and inhabit a mountain chain which roughly covers western Myanmar through to Mizoram in north-east India and small parts of Bangladesh. They are composed of a number of ethnic groups. A mountain people by tradition, perhaps 80 per cent are Christians. Combined with the difficulty in accessing the area; the living conditions of Chin State continue to degrade due to lack or inadequate support to its population.

In 2014, the total population for Chin State was 478,801 persons, representing 0.93 percent of the total population of Myanmar. It had the lowest population density, 13.3 persons per square kilometer. The population density is the lowest among all States and Regions in the country, and is much lower than the Union level density of 76 persons per square kilometer. A survey conducted in 2009-10 by the United Nations Development Programme (UNDP) has found that Chin State remains the poorest state among 14 regions and states in Myanmar with seventy-three percent of the people living below the poverty line. According to the survey, Chin State has the highest number of family members in each household with six people per household. As in many places of the country, the state is losing its labor force as many young people migrate to out of country for employment; no workforce means no production thus no production means no income.



View of Hakha Township, Chin State

Torrential rain, starting in July 2015, and the onset of cyclone Komen had triggered severe and widespread floods and landslides across 12 states and regions in Myanmar leaving 1.6 million people displaced. In Chin State, there were 20,449 people affected, representing 4.3 percent of the total population. The damage spanned across 9 townships, causing widespread damage to households and basic infrastructure in the State.

The Myanmar Post-Disaster Needs Assessment of Floods and Landslides report determined Chin State had the second highest (behind Rakhine State) number of affected households in the region, with 3,987 homes either collapsed or destroyed during the floods, and of these households 2,934 requiring relocation. As a result of the floods Chin State has seen a further 4,042 people displaced to IDP camps along with 5 reported deaths from the disaster. The State capital Hakha was the worst affected region with heavy rainfall destroying 247 homes, resulting in the displacement of 1,147 people. In addition, roadblocks and the destruction of crucial bridges had undermined necessary relief efforts and had caused a major logistical challenge for assistance delivery.

1.2 Project response to the 2015 floods

In response to the floods that affected Chin State in 2015, UN-Habitat received funding from the Government of Japan to implement the project for **Emergency Support to Poor and Vulnerable Communities in Ethnic Areas** in 241 villages across four townships¹. The project was operational from 1st August 2016 in Falam, Hakha, Tedim and Thantlang townships focusing on empowering communities to ensure they jointly work to build/renovate basic services (water and sanitation, and community infrastructure), as well as housing destroyed by the 2015 floods, in order to provide communities basis for healthy and productive life. The project was framed within the overall objective of helping Myanmar's ethnic poor minorities and vulnerable communities to address the emergency needs to restore their normal life and to sustainably improve quality of life.

¹ The project was approved to implement in 200 villages, however during implementation the project extended to 41 one more villages, therefore 241 villages were targeted.

1.2.1 Scope of the project

Access to affordable, suitable and sustainable water and sanitation services and community infrastructure, as well housing for the most vulnerable households was imperative in order to improve their living conditions, whose subsistence is meager and livelihoods stretchily provides them food. Hence the project's outcomes aimed at increasing the capacity of community to a better understanding of how to identify, prioritize, materialize and manage their water and sanitation, and community infrastructure, furthermore to allocate housing to the right beneficiaries that lost theirs as consequence of the floods. The project had two components where activities were designed through community consultations and community action planning with significant beneficiary inputs. Community driven actions contributed significantly to promote social cohesion, built confidence and took the path towards sustainable improved living conditions. Furthermore, it allowed women and youth to take part in community action planning where their needs were addressed.

Component one: this component focused on providing support through WASH and community infrastructure construction/upgrading across 241 villages in 4 townships of Chin Sate (Tedim, Falam, Hakha and Thantlang). The project focused on creating immediate access to safe drinking water and adequate sanitation, and also on rehabilitation of access roads and infrastructure required for immediate recovery of living conditions in areas that were affected by the floods.

Component two: the project proposed to support estimated 300 who were the most vulnerable families that were affected by the flood, they would have received support to build 240 new houses and to upgrade 60 others (approximately 1,800 beneficiaries). However, by the time the project was operational in the field majority of houses affected by the floods were re-built or repaired by their own arrangement or supported by government. Construction of housing supported by the project took place only in Hakha Township.

1.2.3 Outcomes

Following are the major outcomes achieved by the project:

- Connectivity restored and condition improved of basic infrastructure in affected rural communities and regained access to market, health and educational facilities
- Increased access to safe drinking water and reduced incidence of water borne diseases among affected communities; increased access to adequate sanitation and promoted good hygiene practices
- Most vulnerable households affected by the floods rebuilt/ upgrade their dilapidated houses where safety and living conditions of mainly women and children are improved with better housing conditions
- Livelihood opportunities through employment-intensive improved; the employment-intensive component contributed to the poorest households to gain addition income (although nominal)
- Capacity building impacted in the process of community development as well in ensuring that communities will fully engage with future improvement activities for their communities

the **People's Process** allows transparency, participation, **local empowerment**, demand-responsiveness, accountability, and **enhanced local capacity**

2. Project implementation

2.1 Implementation approach: People's Process

The project was implemented through UN-Habitat's flagship the **People's Process** approach allowing target communities to identify, prioritize, plan and build their own water and sanitation, and community infrastructure prioritized interventions with the financial and technical assistance provided by the project. All project activities were directly executed by UN-Habitat in target villages through this community-driven approach by establishing Village Development Committees (VDCs).

The project was implemented through community contracting system. A community contract is the formal instrument of agreement between UN-Habitat and the targeted community; the informal instrument is Community Implementation Agreement (CIA). The implementation of community contracts promoted by the agency follows a step-by-step methodology within the framework of the Community Action Planning (CAP) approach, where UN-Habitat supports community to prepare development plans. After completion of project activities, VDCs and UN-Habitat signed a completion certificate on full agreement that all activities identified and agreed during CAP have been satisfactorily completed, and that maintenance and operations and sustainability of each lays on the hands of community.



Community gathering during CAP

2.2 Community trainings and skill development

Capacity building and community skill development trainings have been an integrated component of the project. The objective was to support communities to strengthen their social capital through various trainings in order to build platform for better coordination and communication to improve sanitation and hygiene practices, as well to have access to safer drinking water. Moreover, skill development aimed at enhancing community capacity to operate and maintain their sanitation and water infrastructure, as well strengthening skills for communities to have more employability opportunities including women in the labor market.

Training sessions have consisted of substantial information and skills transferred through practical exercises and involvement with project activities on the ground. Implementation of project activities have been providing local communities with hands-on experience and enriching their knowledge and understanding of community-driven development initiatives. Based on communities' priorities, UN-Habitat field teams prepared training for community skill development and requested funding disbursement to UN-Habitat Head Quarters (HQ).

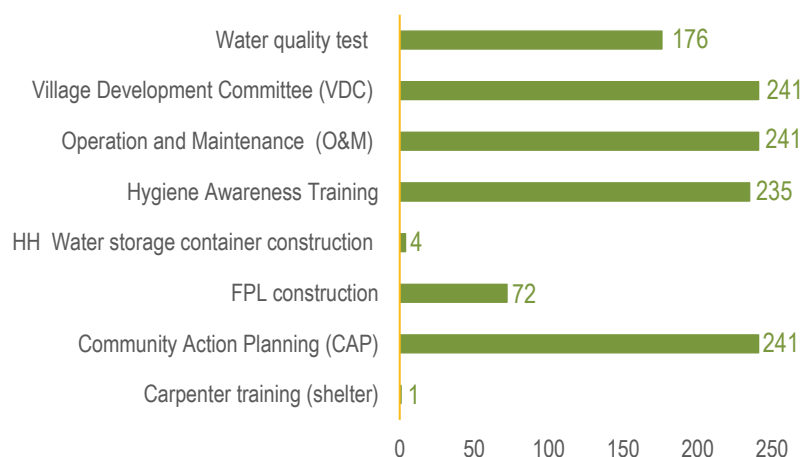


Fig. 2.1 Trainings supported by the project

There have been 8 types of trainings across the project townships as seen in figure 2.1, which were conducted through 1,211 trainings that benefited a large number of population as it is detailed in table 2.1. Below section describes the different trainings supported by the project.

Table 2.1 Beneficiaries by type of training by township

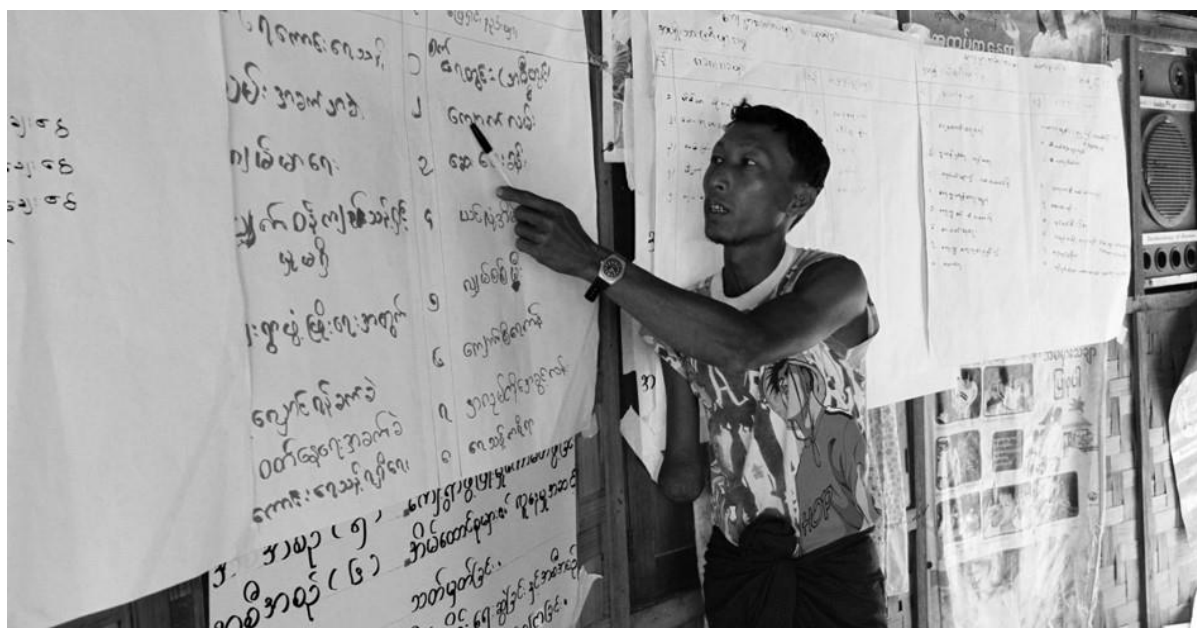
No.	Workshop/training	Hakha	Falam	Tedim	Thantlang	TOTAL
1	Carpenter training (shelter)	12	-	-	-	12
2	Community Action Planning (CAP)	2,329	2,564	4,937	3,805	13,635
3	FPL construction	114	162	149	114	539
4	HH Water storage container construction	-	186	-	-	186
5	Hygiene Awareness	2,052	1,153	2,004	1,297	6,506
6	Operation and Maintenance (O&M)	532	1,281	639	425	2,877
7	Village Development Committee (VDC)	389	482	639	433	1,943
8	Water quality test	114	745	341	341	1,541

2.2.1 Community Action Planning (CAP) workshops

A community action plan (CAP) is a road map for implementing community improvement by identifying and specifying what community will be done, who will do it and how it will be done. In other words, the action plan describes what the community wants to accomplish, what activities are required during a specified timeline and what resources (money, people and materials) are needed to be successful.

The project teams introduced the People's Process approach – community-driven implementation where people are put the center of their own community development- and it was very much welcomed because communities started realizing that they would be part of the decision-making process. Community mobilizers facilitated the participants to prepare social mapping and to revise the existing social service facilities and their status, identify the problems of the community which included nutrition (sanitation and water related), and their real needs by using Participatory Rural Appraisal (PRA) tools. The project teams encouraged communities to make consensus for prioritization of activities identified during CAP, and analyze the possible solutions.

communities were considered to be the primary resources rather than the objects of development



Presenting the community prioritized needs

UN-Habitat conducted CAP workshops in 241 villages, total 13,635 people participated sharing, discussing, making decisions and agreeing on the activities to implement in their villages; 38% of participants were women. The workshops were completed in 2016 (Table 2.2).

Table 2.2 Total community members that participated of CAP

Township	Village	Male	Female	Total	Female (%)
Hakha	57	1,339	990	2,329	42.5
Falam	62	1,543	1,021	2,564	39.8
Tedim	65	3,024	1,913	4,937	38.7
Thantlang	57	2,588	1,217	3,805	32.0
TOTAL	241	8,494	5,141	13,635	38.3



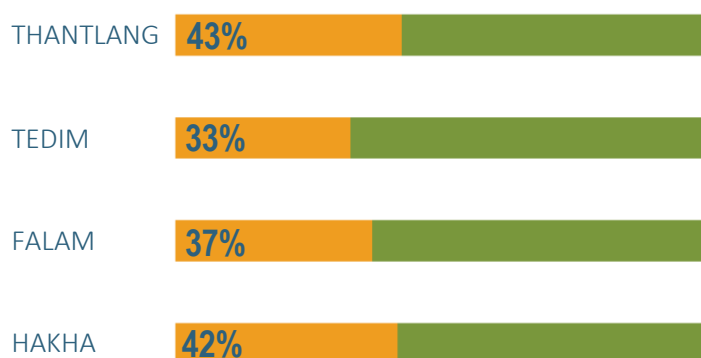
2.2.2 Village Development Committee (VDC) training

Community-driven development (CDD) activities require deep-rooted organization, it relies on participation and commitment from the community at all levels. Village Development Committees (VDCs) were introduced to community at the beginning of the project to act as a leader to establish a form of governance within the community. The project was implemented by communities themselves represented by elected Village Development Committees (VDCs). Members were sourced from the community, and during the selection - numbering usually 7 to 9 persons (chair person, secretary, treasurer and members) - the community was encouraged to nominate and vote for people that did not already hold posts with local authorities to minimize the possibility of conflict of interest and at the same time select those people that could have influence (village elders and local opinion leaders) over the community. The latter ensures that decisions taken by the VWDCs are upheld by the community, allowing for sustainable development building on existing power structures and hierarchies within the community.

The project conducted VDC training in each of the 241 villages, there were 1,943 members, with 38% women’s participation (table 2.3). These trainings were completed on October 2016.



Women's participation on decision making



Gender empowerment, **women** making decisions and being **active** participants in their village **development** committee



39% women in VDCs

Table 2.3 Members of VDC by township

Township	Village	Male	Female	Total	Female (%)
Hakha	57	226	163	389	42
Falam	62	303	179	482	37
Tedim	65	428	211	639	33
Thantlang	57	248	185	433	43
TOTAL	241	1,205	738	1,943	39

2.2.3 Water quality test training

This training aimed at introducing water quality testing to community in order to get basic understanding of onsite monitoring of water quality by using basic testing kits (PH, turbidity, conductivity, TDS and bacteriology (H2S)). The training addressed characteristics of safe drinking water, planning for water quality testing, testing options, including portable field kits, physical, chemical and microbiological parameters and test procedures, and interpreting water quality test results

There were 176 water quality test trainings conducted in villages with water infrastructure. Total 1,541 villagers attended and gained knowledge and skills, from which 39.5% were women (refer to table 2.4 for number of attendees by township).

Table 2.4 Water quality test by township (233 villages)

Township	Village	Male	Female	Total	Female (%)
Hakha	57	81	33	114	27.9
Falam	54	446	299	745	40.1
Tedim	65	202	139	341	40.8
Thantlang	57	203	138	341	40.5
Total	233	932	609	1,541	39.5



2.2.4 Housing construction and carpenter training

The housing construction training addressed to carpenters was designed to help participants develop a set of skills to build a resilient house, especially since Chin faces challenges due to climate change. Taking into consideration various nature-related conditionings UN-Habitat conducted six days training at Tinam Village, Hakha Township. The training was attended by 12 persons from different six different villages (Chinkua, Lungrang, Lungcawu, Lanboe, Loklung and Tinam villages) which were supported with housing reconstruction for 25 households.

Session of the training were divided into two components i) community participated in design of the house, ii) trainees built a house to apply the knowledge and skills acquired. At the end of training, communities had basic skills to construct a house, this training was completed on July 2017.



Hand-on-training to build houses

2.2.5 Fly proof latrine (FPL) training

The project conducted 72 trainings on construction of fly-proof latrines, the training covered 218 villages across four townships. The training focused on how community must construct a durable type of fly proof latrine. UN-Habitat provided technical guidance and trainees (hands-on-training) built a latrine by the end of training period. The participation of women in the training was low, only 8.3%, this mainly due to traditions practiced where women are not included in construction work (although many women work on government road construction as laborers, however under the supervision mostly of a man). The training were concluded on trainings were conducted on January 2017, and table 2.5 shows number of trainees by township.



Table 2.5 FPL trainings by township (218 villages)

Township	Village	Male	Female	Total	Female (%)
Hakha	57	89	25	114	21.9
Falam	54	147	15	162	9.3
Tedim	50	149		149	0
Thantlang	57	109	5	114	4.4
TOTAL	218	494	45	539	8.3

2.2.6 Hygiene awareness

Hygiene awareness was conducted in 235 villages aiming at strengthening the communities' knowledge and practice of positive hygiene, the project aimed at showing negatives effects of unhealthy hygiene habits on nutrition, especially of small children (under five mortality is 92 in 1,000 in Chin State, and death is associated to unsafe WASH) and overall health of community.

The participants received knowledge about the importance of hygiene, and the role it plays in maintaining health and preventing diseases. It focused on cleanliness and sanitation, considering it (hygiene) as as a condition related to public health, especially the provision of clean and safe drinking water, hand washing, cleaning of latrine and adequate different kinds of solid waste management/ disposal.

Total 6,506 people participated of the hygiene awareness activities, almost 50% of them were women. The trainings completed on January 2017. Table 2.6 shows participation by township.

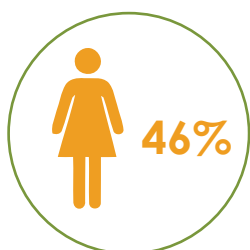


Table 2.6 Hygiene Awareness Trainings by township (235 villages)

Township	Village	Male	Female	Total	Female (%)
Hakha	58	1,009	1,043	2,052	50.8
Falam	54	648	505	1,153	43.8
Tedim	65	1,063	941	2,004	47.0
Thantlang	58	798	499	1,297	38.5
TOTAL	235	3,518	2,988	6,506	46.0

2.2.7 Household rain water storage tank construction training

Training on construction of household rain water storage tank was conducted at Falam Township (as a host Township). As a result of hand-on-training, 180 gallons concrete tanks were built. The project supported with mold for pre-cast concrete of water tank, during the training, the technical team guided and monitored the trainees' participation on how to use mold and mix concrete for construction of the water tank; four trainings were conducted by UN-Habitat with 186 participants who showed motivation and commitment.

Women's participation in this training was only 18% because this type of training was considered by communities addressed especially to men. The training was completed in 2017.

2.2.8 Operation and Maintenance (O&M) Training

Operation and maintenance (O&M) training, which encompassed not only technical issues but also managerial, social, financial and institutional issues, were directed towards the elimination

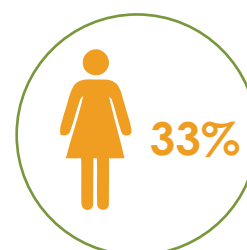
or reduction of the major constraints which prevent the achievement of sustainability. Operation and maintenance training is a crucial element of sustainability, and a frequent cause of failure of community infrastructure service facilities where many failures are not technical ones but financial and managerial.

The key objective of the operation and maintenance (O&M) training was to enforce the community capacity for successfully operating, maintaining and managing the household sanitary latrine and community water supply infrastructure. The training covered roles and responsibilities of the community and other stakeholders, techniques for operating the systems as well sanitary latrines, maintenance procedures and scheduling for each type of water supply, requirement of equipment and tools for maintenance, coordination with project and government technical staff (DRD), as well management and financial issues.

UN-Habitat conducted the operation and maintenance training in 241 villages with 32.7% of women’s participation. The training was completed on September 2017, with participation of 2,877 people (table 2.7)

Table 2.7 Operation and maintenance trainings by township (241 villages)

Township	Village	Male	Female	Total	Female (%)
Hakha	57	340	192	523	36.7
Falam	62	888	393	1281	30.7
Tedim	65	428	211	639	33.0
Thantlang	57	279	146	425	34.4
TOTAL	241	1,935	942	2,877	32.7



2.3 Implementation of community contracts

2.3.1 Community Implementation Agreements (CIAs)

The project was implemented through community contracting system. As mentioned earlier in this report, a community contract is the formal instrument of agreement between UN-Habitat and the targeted community (VDC). Cluster VDCs were formed in the four townships, and each cluster selected a lead VDC which opened a bank account at township bank in order to receive funds transferred by UN-Habitat. Due to still small capacity of banking system in Chin, as well distance from most villages to the main town where bank is located, near-by villages were clustered so they could receive their funds in one account and the distributed according their signed Community Implementation Agreement (CIA); funds were transferred in two installments (80% and 20%) according agreement and milestones, upon UN-Habitat certification.

The preparation of the CIAs was done by UN-Habitat technical team jointly with VDC of respective target village. Feasibility survey for proposed water supply systems were undertaken previously to CIAs preparation, then technical designs and bill of quantities (BoQ) were discussed with the communities to complete the proposals; VDC and UN-Habitat developed work-plans to implement activities in each village. CIAs were approved to implement water and sanitation, community infrastructure and housing upgrading/construction.

UN-Habitat has implemented various community needs activities according to outcome CAP results which were categorized into community water and sanitation, community infrastructure, rural electrification and house construction activities in 241 villages across four townships. In order to implement construction activities total 110 CIAs have been signed and approved as shown in table 2.8.

a **community contract** is the formal instrument of **agreement** between UN-Habitat and the targeted community (VDC)



Community engagement to build village bridge



Table 2.8 Total CIAs approved

Township	Villages	No of CIA
Falam	62	22
Hakha	57	40
Tedim	65	32
Thantlang	57	16
TOTAL	241	110

2.3.2 Water and sanitation

The project has implemented water and sanitation construction activities in 241 villages across the four project townships. The objective of implementing water supply was to improve access to safe drinking water and improved sanitation through construction of household latrines. The community water activities were implemented according to the community's prioritization, and activities differed from one village to another based on the village needs. UN-Habitat provided technical assistance throughout the project.

In three townships, except Thantlang, the project supported with construction of household rain water collection tank, total 605 households were benefited with a tank each; the tanks were built by trainees of the project. The concrete tank intended to replace the wooden tanks that most families had before the project; the storage capacity allows the household to have enough water for daily use and to keep a small vegetable garden.

In many villages, the community prioritized ground water tanks to improve water provision (quantity and quality) to households, as water quantity significantly decreases during the dry and winter season in Chin State. Water samples were sent to Yangon to test at a laboratory to ensure drinking water was within Myanmar and WHO permitted standards. In some villages, where there were turbidity concerns, the project supported households with treatment techniques.



Water access as a result of project support

As a result of various types of water infrastructure – as shown in table 2.9 – the project has directly **benefited 125,008 people** with access to safe drinking water and domestic water, this includes provision of piping system in in three project townships, except Falam.

Table 2.9 Water and sanitation activities supported by the project

No.	Activity	Hakha	Falam	Tedim	Thantlang	TOTAL
1	Tube well (new)	8	-	-	-	8
2	Protection of water sources	6	3	-	-	9
3	HH piped distribution system	1	-	7	4	12
4	HH water storage container	232	358	15		605
5	Hand dug well (renovation)	-	-	-	3	3
6	Gravity flow system (new)	4	7	3	7	21
7	Gravity flow system (renovation)	7	8	21	1	37
8	Ground tank	-	13	15	8	36
9	HH latrine	718	512	326	634	2,190
10	School latrine	11	20	6	10	47

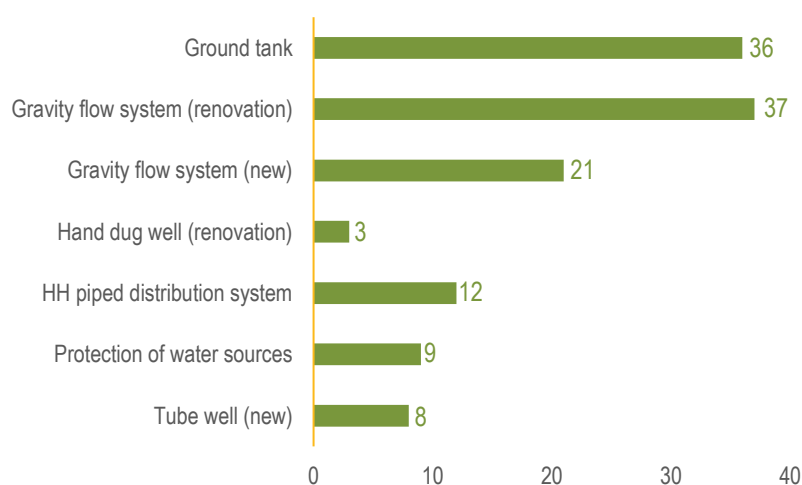


Fig. 2.2 Community water infrastructure supported by the project

household water piped supply has brought in many positive effects to the lives of communities



Household water piped installation



School sanitation support

Table 2.10 Total beneficiaries of the project

Township	Villages	Households	Male	Female	Population	Average HH Size
Falam	62	5,113	14,812	15,470	30,282	5.9
Hakha	57	4,312	12,638	13,037	25,675	6.0
Tedim	65	6,502	19,535	20,483	40,018	6.2
Thantlang	57	4,937	14,373	14,660	29,033	5.9
TOTAL	241	20,864	61,358	63,650	125,008	6.0

The project supported with access to improved sanitation through construction of household fly-proof latrines by following community-driven approach. UN-Habitat supported the construction of 2,190 units across four townships, as a result the hygiene practices and health of 11,806 people are increasing. Chin State community has high awareness to have and use latrines (compared to Dry Zone which has higher percentage of open defecation). The project did not only supported with construction of latrines to most vulnerable households but also trained the community and enhanced their skills to construct durable low cost fly-proof latrines.

Table 2.11 School children benefited from school toilets

	Hakha	Falam	Tedim	Thantlang	TOTAL
Boy	508	775	287	2,563	4,133
Girl	523	820	313	2,600	4,256
TOTAL	1,031	1,595	600	5,163	8,389



The project also supported to improve school children to have access to proper sanitation, through construction of school toilets with hand washing facility, and to improve their health as a result of hygienic sanitation facilities. UN-Habitat coordinated with the community and parent teacher association (PTA) to build a double room latrine including hand washing facilities for primary students. This activity has benefited 8,389 primary students through construction of 47 units of school latrine by November 2017 (table 2.11)

2.3.3 Community infrastructure

The project supported to restore the community infrastructure required for recovery of basic services and living conditions in areas that have been affected by the 2015 floods within project targeted locations. Chin State faces big challenges regarding access due to lack or dilapidated conditions of the road infrastructure (it can take up to four hours to access a village from Hakha main town), as well since most villages are far-located between small rivers or channels they do not have bridges, this also causes difficulties to communities (difficult access to education for children, difficult transportation of farm products, difficult access in case of health emergency, among others). As result of restored community infrastructure, **165,779 (from 28,264 HHs) have benefited** (table 2.12).



Suspension bridge to support connectivity

THANTLANG **66**

TEDIM **210**

FALAM **88**

HAKHA **72**

Construction of bridges by township



Community in charge of bridge construction

connectivity restored and condition improved of basic infrastructure and regained access to market, health and educational facilities



Road improvement to allow children to access education



Construction of drainage

Table 2.12 Community infrastructure supported by the project

Activities	Hakha	Falam	Tedim	Thantlang	TOTAL
Bridge	1,878	2,479	6,022	3,116	13,495
Suspension bridge	412	125	-	105	642
Retaining Wall	-	-	420	-	420
Road construction	1,128	681	3,525	1,697	7,031
Road renovation	1,571	325	3,534	1,246	6,676

In Chin State, many inhabitants suffer from malaria, dengue and hepatitis A/E which are water related vector-borne diseases; there is a close linkage between the presence of excess water (due to lack of adequate drainage system) and the transmission of water related vector-borne diseases in this area. By construction of drainage systems it helped community reduce the chance to face water related vector-borne diseases. UN-Habitat constructed 32 drainage systems with the participation of community in four townships. Total 23,712 people benefited from this activity.



Renewable energy (solar panels) support

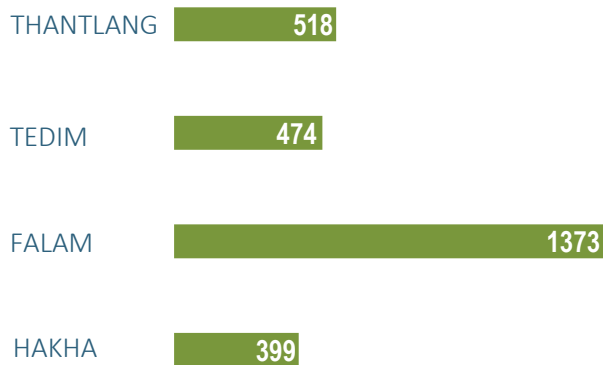
UN-Habitat closely monitored the construction of drainages to ensure protection against soil erosion, land slide and environment pollution.

2.3.4 Renewable electrification

2.3.4a Project support

According to Community Action Planning (CAP), most of community prioritized support of renewable electrification (solar panel), specially for their children to be able to study (most households use candle to light at night) as well to have chance of livelihoods where use of electricity is necessary, and simply electricity is an important basic service that people have right to access to.

UN-Habitat supported of 2,764 households with solar panels. Based on the results of field study conducted by UN-Habitat in four townships, it was found that solar power was useful for school children (41%), because 27% of all interviewed said children read at night. Most of the community (97%) was satisfied with the solar panels, and said that it was improving their living conditions. Falam Township was deeply benefited since there is no national power grid to connect to villages.



Provision of solar panels by township



Electricity access to support education

2.34b Scoping feasibility study (Micro Hydro Power, MHP)

The Myanmar Union's government has set the ambitious goal of providing electrification to 50 percent of Chin State by 2020. However, as of to date the electricity coverage still very low and rationed.

As part of its activities to support the country, UN-Habitat has conducted a scoping feasibility study across the four project townships in order to identify sites to implement micro-hydro projects. The result of the scoping feasibility study identified 24 sites (six in each township) with different intake capacity as well number of households to benefit from.

In the second semester of 2017, the Government of Myanmar, through the Department of Rural Development (DRD) requested officially to UN-Habitat to support with a pilot project in Chin State. This request was duly informed to the Government of Japan through its embassy in Yangon, which granted the permission for implementation. Therefore UN-Habitat selected one site as pilot project located at Tedim Township, at Muizawal Village, with capacity 15KW to benefit 93 households. The pilot project is on-going and was planned to complete by the end of May 2018, however due to procurement process of mechanical component it will require some more additional months (refer to section 7. Undergoing remaining activities).

2.3.5 Housing construction

The project aimed to support 300 households at time of proposal preparation, however by the time the project was operational in the field, most of the affected households already repaired/rebuilt their house or received government support.

UN-Habitat supported the construction of 25 houses in six villages (Chinkua, Lungrang, Lungcawu, Lanboe, Loklung and Tinam) located in Hakha. The beneficiaries were selected by the communities as being the most vulnerable in their respective village.

The house design included consideration of winter season by applying double layers of wall (GI Sheet and Plywood) and structure foundation suitable for the slope condition in mountainous area like Chin State.



Beneficiary of housing support



Housing construction by trained beneficiaries

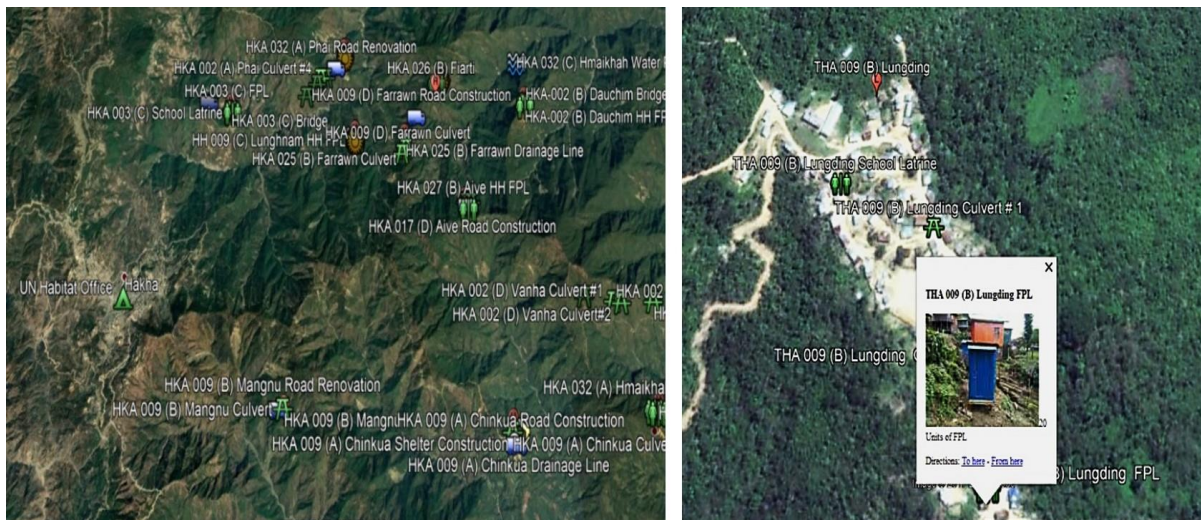
The following table shows summary of all activities supported by the project on water, sanitation, community infrastructure, renewal energy and housing.

Table 2.13 Activities by type by township supported by the project (241 villages)

Activity Name	Units	HH	Male	Female	TOTAL
WATER AND SANITATION					
Gravity flow system (New)	21	1,757	4,811	4,903	9,714
Gravity flow system (Renovation)	37	3,900	11,924	12,241	24,165
Ground Tank	36	3,047	8,852	9,452	18,304
HH Piped distribution system	12	1,960	6,487	6,281	12,768
HH Water storage container	605	605	1,611	1,571	3,182
Tube well (New)	8	54	106	122	228
HH latrine	2,190	2,190	5,820	5,986	11,806
School latrine	47	-	4,133	4,256	8,389
COMMUNITY INFRASTRUCTURE					
Bridge	428	13,495	38,761	39,700	78,461
Drainage/Sewerage	32	4,106	11,658	12,054	23,712
Suspension bridge	8	642	1,766	1,804	3,570
Retaining Wall	1	420	1,418	1,357	2,775
Road construction	58	7,031	20,175	20,250	40,425
Road renovation	67	6,676	19,967	20,581	40,548
RENEWAL ENERGY					
HH electrification unit (solar)	2,719	2,719	8,351	8,473	16,824
Village electrification (solar)	1	45	139	129	268
HOUSING					
Shelter construction	25	25	83	77	160

3. Tracking system activities

UN-Habitat developed a project activities tracking system using Google Earth software to provide the information of implementation status of all activities by village wise according to GPS coordinate. The objective of this tracking system made possible to know location of community infrastructure as well implementation status of each activity. The system is not perfect structured yet but can provide overview location, distance, and infrastructure status picture of implementation. This engineering tracking system was able to track and provide the updated status of infrastructure activities in four townships.



Project activities tracking system

4. Lessons learned

- Chin State has different soil and geologic structure compared to other states in Myanmar. The soil and geologic condition need to be highly considered when designing road construction activities. Asphalt and macadam road are not suitable due to frequently landslide and earth moving. Therefore, concrete or rigid pavement is the most recommended to be implemented in Chin State, however, this construction cost is more expensive than what project could support, therefore it is important to consider for future implementation this type of roads, although more expensive but much more cost-effective in the long run.
- In some slopping areas, bridge foundation needs to be considered to include bore pile foundation. Therefore, bore/pile cap foundation is needed to be implemented if a river has significant slope due to water flow, because water becomes like a hammer to the bridge. During Mora Cyclone on May 2017, the project was affected to damage to some bridges, they had to be repaired, so it's very important to have this consideration as part of risk management at time of project proposal, technically and financially.
- Water supply pipeline connection in Chin State is different to other Myanmar's areas, the community in Chin State has been using direct connection from the main water source, creating a mix of water pipes, which makes water to lose pressure especially when water spring source decreased water yield in dry/winter season. Arrangement of water pipeline is not easy because community think that direct connection to water source is better than using water distribution/pressure tank, therefore stronger community mobilization and awareness is necessary.

- During the design process of the house structure, including its location considering topography of Chin State community was fully involved, which has proved effective having the affected families partipate of the process. However, UN-Habitat had to work harder to convince community of safer and resilient construction techniques. Therefore, for next projects it is important to educate communities about disaster risk management and climate change, and how these affects to poor housing construction.
- Project villages were many as well far-located from each others (some villages were located the border with India), this gave overload to field teams. Accessibility was difficult therefore staff had to stretch in order to complete the project. Therefore, for future implementation it would be better to support less villages but larger support to each.

5. Challenges

During the project implementation period, the project faced several challenges, among the major ones are: described below:

- Most of the targeted villages are located far away from the township office. The road access to targeted villages is very difficult and impassable during monsoon season. Field staff had often walked over 5 miles from point of landslide road to targeted villages. Some villages do not have any telephone communication network (signal does not exist) therefore communication is also extremely difficult to communicate or coordinate with the communities during implementation.
- Road condition from Kalemio town to 4 townships (Tedim, Falam, Hakha and Thantlang) is always presenting land-slides; this road is a connecting road among project townships therefore project staff faced continuously challenges to implement and monitor project activities, as well the road condition makes difficult to transport construction materials to villages.
- Language is also a barrier since most communities from one township to another speak different Chin dialect.
- Logistics and transportation of construction material and equipment delayed due to difficult accessibility, and also lack of availability of company to carry this work, therefore the construction works have difficulty to meet the planned schedule.
- Since Chin State is the most isolated and undeveloped state in Myanmar, no many community members have skill for masonry, carpenter or construction worker in order to implement the project; quality of constructions needs to be closer supervised.
- Frequently disruption of electric operation in Chin State, especially in Tedim township office impacted on additional operational cost since the project had to run generator power within office hours.

6. Communication and visibility

UN-Habitat provided visibility to the project and its donor through different means: human stories published at UN-Habitat Myanmar website and Facebook page, updated on regional office website, production of infographics, brochures and photo book. The main objective was to build awareness regarding the purpose, activities and key results of the intervention amongst the main target groups and to communicate the contributions and commitments of the Government of Japan towards the reduction of poverty and promoting sustainable rural communities in Myanmar.

The project installed signboards at each project activity giving visibility to the the Government of Japan as donor. Furthermore, there were national and national and local newspapers/ television broadcasting that published news about the project activities, among them are Opening Duhmang suspension bridge, Falam Township was broadcasted by MRTV news on October 2017; Opening ceremony of Tlanglo suspension bridge, Thantlang Township by The Mirror Daily news, 22 November 2017; Opening Zathil composite bridge, Falam township by Union Daily news on 21st December 2017 and Global New Light of Myanmar newspaper on 22 December 2017.



Donor visibility through newspaper article

7. Undergoing remaining activities

As of to date, there are two suspension bridges under construction that will be completed by end of March 2018. The bridges could not be completed earlier due to difficult accessibility to the villages, most of the transportation of heavy materials had to be done by man-power on foot.

The pilot micro-hydro power in Muizawal is as well under-going. Community mobilization was undertaken and Community Implementation Agreement (CIAs) prepared and submitted to UN-Habitat HQ for approvals, it is expected that funding to implement civil works (to be done by the community) will be transferred in mid-March.

Regarding electro mechanical component, the procurement process (call for international bidding) is as well on-going, however this component may take longer than expected due to the process followed by UNDP (which support UN-Habitat on procurement processes), therefore a non-cost extension is required.

8. Expenditure

The total approved budget for the project was JPY 607,000,047 equivalent to **USD 5,589,833** at the time of project design. Accordingly, the project was planned and implemented for the equivalent USD. Due to the changes in currency exchange rates, it was noted that an exchange

gain was recorded in our financial management system late into the project implementation phase. This gain amounts to USD 327,496 USD.

In accordance with the aids transparency initiative, UN-Habitat implements its projects following IPSAS (International Public Sector Finance Sector Accounting Standards) requirements. Accordingly, such financial loss and gains are applied to the project concerned. Hence UN-Habitat proposes to utilize the gained amount for the implementation of two more micro-hydro power projects with estimated cost of USD 221,000. Break down of the projected expenditure and proposed expenditure of the balance are shown in the table below.

Table 8.1 Budget expenditure as of 28 February 2018 (USD)

Description	Budget (JPY)	Budget (USD)	Projected Expenditures (USD) May 2018	Balance (USD)	Planned budget for Micro Hydro Projects
Program (training/CIAs)	387,586,201	3,778,379	3,509,104	269,275	221,115
Personnel	140,479,621	1,369,464	1,364,254	5,210	63,793
Office Cost, Equipment and Suppliers	39,223,942	382,374	350,788	31,586	21,163
Total	567,289,763	5,530,218	5,224,147	306,071	306,071
Project Support Cost 7%	39,710,283	387,115	365,690	21,425	21,425
GRAND TOTAL	607,000,047	5,917,333	5,589,837	327,496	327,496

* The amount balance through exchange gain is proportionally utilized at 72% for program, and the rest for program support.

9. Need for further non-cost extension

All physical activities planned under the project have been successfully completed except two suspension bridges expected to complete by the end of March 2018, and a micro-hydropower project (MHP), which commenced following the “No cost time extension” in November 2017.

Furthermore, while reviewing the UN-Habitat system generated financial report and clearing obligations, there is unspent balance under the project which is mainly from the exchange gain. The balance amount is sufficient to implement two more Micro Hydro Projects project with costs estimated at USD 221,000. These projects will help us meet the deep felt needs of the people in our project areas. Therefore, a further non-cost extension until August 2018 shall be requested to the Government of Japan, through its Embassy in Yangon.

